

## HUMAN PREPROTACHYKININ GENE PROMOTER

This application is a continuation of U.S. Application Number 09/747,429,  
filed December 23, 2000, now ~~pending~~ <sup>abandoned</sup>, which claims the benefit of U.S. Provisional <sup>my</sup>  
Application No. 60/171,970, filed December 23, 1999. Both of these applications are <sup>9-6-07</sup>  
5 incorporated by reference herein in their entirety.

Pursuant to 35 U.S.C. §202 (c) it is acknowledged that the U.S. Government  
has certain rights in the invention described herein, which was made in part with  
funds from the National Institutes of Health, Grant Numbers HL57675 and HL54973.

### FIELD OF THE INVENTION

10 This invention relates to the fields of molecular biology, drug discovery and  
neoplastic transformation. More specifically, nucleic acid molecules encoding a  
preprotachykinin (*PPT*) gene promoter or 3' mRNA operably linked to a nucleic acid  
encoding a reporter molecule are provided for use in methods for identifying  
beneficial therapeutic reagents which influence expression levels and biochemical  
15 functions of this protein. The compositions of the invention may be used to advantage  
in the discovery of therapeutic agents for the treatment of cancer and other  
hematologic disorders.

### BACKGROUND OF THE INVENTION

The immune-hematopoietic-neural axis encompasses the neuroendocrine  
20 system. These two systems cooperate via biochemical cross-talk. A particular  
cytokine or neuropeptide can be produced in cells of both neural and peripheral tissue,  
the latter including lymphoid organs and bone marrow, among others. Soluble factors  
mediate this bidirectional communication between the nervous and  
immune/hematopoietic systems. Due to this crosswalk, changes in one system often  
25 influence functional changes in the other. In fact, studies show that the onset of  
hematopoiesis is correlated with complete innervation of the bone matter.

Stress, either physical, chemical or psychological, induces soluble brain  
derived factors and has been implicated in altered immune functions. Stress has also  
been associated with the incidence, relapse and prognosis of cancer. Specifically,  
30 stress-induced neurohormones have been implicated in the development of breast